



## Preface

This volume contains the proceedings of the 7th International Workshop on Formal Engineering approaches to Software Components and Architectures (FESCA). The workshop was held in Paphos, Cyprus on March 27th, 2010, as a satellite event to the European Joint Conference on Theory and Practice of Software (ETAPS'10).

The aim of the FESCA workshop is to bring together both young and senior researchers from formal methods, software engineering, and industry interested in the development and application of formal modelling approaches as well as associated analysis and reasoning techniques with practical benefits for component-based software engineering.

Component-based software design has received considerable attention in industry and academia in the past decade. In recent years, the growing need for trustworthy software systems and the increased relevance of systems reliability, performance, and scalability have stimulated the emergence of formal techniques and architecture modelling approaches for the specification and implementation of component-based software architectures. Both have to deal with an increasing complexity in software systems challenging analytical methods as well as modelling techniques.

FESCA aims to address the open question of how formal methods can be applied effectively to these new contexts and challenges. FESCA is interested in both the development and application of formal methods in component-based development and tries to cross-fertilize their research and application.

The previous FESCA workshops at ETAPS 2004, 2005, 2006, 2007, 2008, and 2009 enjoyed high-quality submissions and attracted a number of recognized guest speakers, including Constance L. Heitmeyer (Naval Research Laboratory, USA), Manfred Broy, (Technische Universitaet Muenchen, Germany), Jose Luiz Fiadeiro, (University of Leicester, UK), Frantisek Plasil (Charles University, Czech Republic) and Martin Wirsing (LMU, Germany).

The program committee of FESCA'10 consisted of

- Henrik Bohnenkamp (RWTH Aachen, Germany)
- Jeremy Bradley (Imperial College London, UK)
- Ivana Cerna (Masaryk University, Czech Republic)

- Kenneth Chan (King's College London, UK)
- Martin Fraenzle (University of Oldenburg, Germany)
- Lars Grunske (Swinburne University of Technology, Australia)
- Ludovic Henrio (INRIA Sophia Antipolis, France)
- Holger Hermanns (Universität des Saarlandes, Germany)
- Jan Kofron (Charles University in Prague, Czech Republic)
- Samuel Kounev (University of Karlsruhe, Germany)
- Heiko Koziolk (ABB Research Ladenburg, Germany)
- Markus Lumpe (Swinburne University of Technology, Australia)
- Raffaella Mirandola (Politecnico di Milano, Italy)
- Sotiris Moschogiannis (University of Surrey, UK)
- Iman Poernomo (King's College London, UK)
- Ralf Reussner (University of Karlsruhe, Germany)
- Antonino Sabetta (ISTI CNR Pisa, Italy)
- Cristina Seceleanu (Mälardalen University, Sweden)

The papers were refereed by the program committee and by several outside referees, whose help is gratefully acknowledged.

We are grateful to ENTCS for their continuing support.

For the seventh time, FESCA has been organized as a satellite event to ETAPS. We are very grateful to the ETAPS organizers, especially to Anna Philippou and George A. Papadopoulos, for taking care of all the local organization and for accommodating all our special requests.

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